

GLASS PASSIVATED SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 600 Volts CURRENT 5.0 Amperes

FEATURES

- * High reliability
- * Low leakage
- * Low forward voltage
- * High current capability
- * Super fast switching speed
- * High surge capability
- * Good for switching mode circuit

MECHANICAL DATA

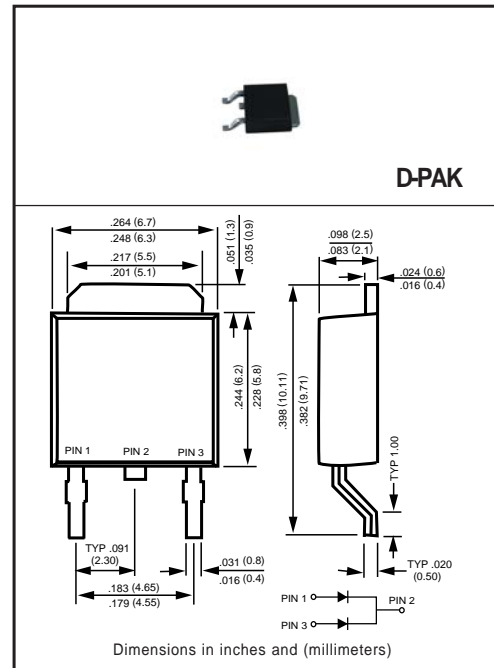
- * Case: Molded plastic
- * Epoxy: Device has UL flammability classification 94V-0
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.33 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.



MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)

RATINGS	SYMBOL	SF51CK	SF52CK	SF53CK	SF54CK	SF55CK	SF56CK	SF57CK	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T _A = 55°C	I _O	5.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	125							Amps
Typical Thermal Resistance (Note 3)	R _{θJA}	20							°C/W
	R _{θJL}	5.0							
Typical Junction Capacitance (Note 2)	C _J	50					30		pF
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to + 150							°C

ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)

CHARACTERISTICS	SYMBOL	SF51CK	SF52CK	SF53CK	SF54CK	SF55CK	SF56CK	SF57CK	UNITS
Maximum Instantaneous Forward Voltage at 2.5A DC	V _F	0.95			1.25		1.50		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I _R	@ T _A = 25°C							uAmps
		5.0							
Maximum Reverse Recovery Time (Note 1)	trr	35					50		nSec
		100							

- NOTES : 1. Test Conditions: I_F = 0.5A, I_R = -1.0A, I_{RR} = -0.25A
 2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
 3. Typical Thermal Resistance : At 9.5mm lead lengths, PCB mounted.
 4. "Fully ROHS compliant", "100% Sn plating (Pb-free)"

RATING AND CHARACTERISTICS CURVES (SF51CK THRU SF57CK)

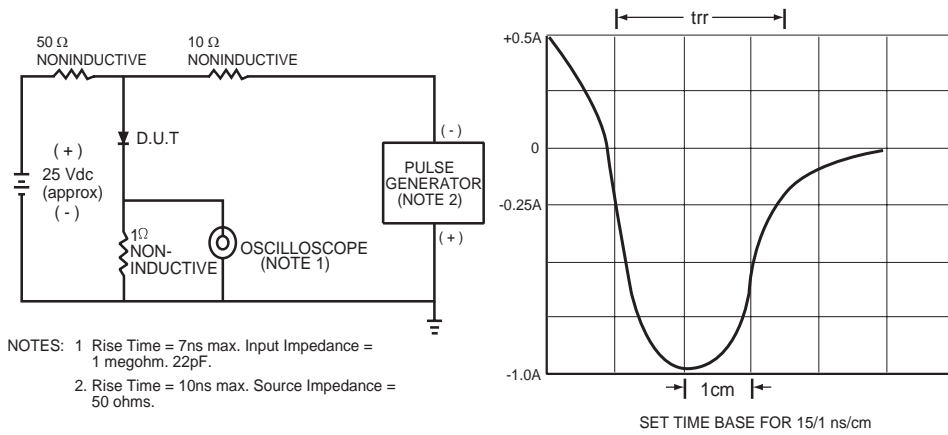


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

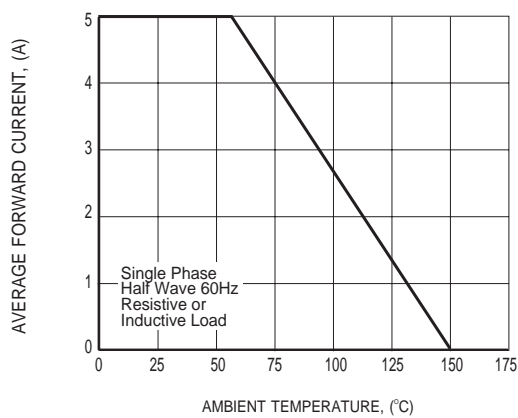


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

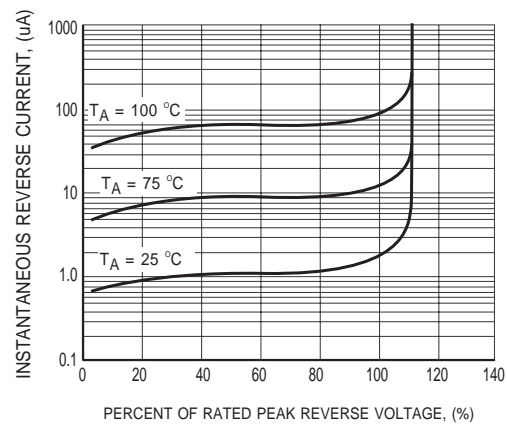


FIG.3 TYPICAL REVERSE CHARACTERISTICS

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